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S11	0	(backup or (back$4 adj "up") or archiv$4) adj ("before" or "prior") adj cach$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/04/25 15:55
S12	1	(backup or (back$4 adj "up") or archiv$4) adj4 ("before" or "prior") adj4 cach$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/04/25 15:55

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Betty Salzberg, Vassilis J. Tsotras
June 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 2
Publisher: ACM Press

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This paper compares different indexing techniques proposed for supporting efficient access to temporal data. The comparison is based on a collection of important performance criteria, including the space consumed, update processing, and query time for representative queries. The comparison is based on worst-case analysis, hence no assumptions on data distribution or query frequencies are made. When a number of methods have the same asymptotic worst-case behavior, features in the methods tha ...

Keywords: I/O performance, access methods, structures, temporal databases

2   A structural view of the Cedar programming environment   ◪
Daniel C. Swinehart, Polle T. Zellweger, Richard J. Beach, Robert B. Hagmann
August 1986 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 8 Issue 4
Publisher: ACM Press

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This paper presents an overview of the Cedar programming environment, focusing on its overall structure—that is, the major components of Cedar and the way they are organized. Cedar supports the development of programs written in a single programming language, also called Cedar. Its primary purpose is to increase the productivity of programmers whose activities include experimental programming and the development of prototype software systems for a high-performance personal computer. T ...

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Comparison of access methods for time-evolving data

Authors   Betty Salzberg   Northeastern Univ., Boston, MA
Vassilis J. Tsotras Univ. of California, Riverside, Riverside

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↑ ABSTRACT

This paper compares different indexing techniques proposed for supporting efficient access to temporal data. The comparison is based on a collection of important performance criteria, including the space consumed, update processing, and query time for representative queries. The comparison is based on worst-case analysis, hence no assumptions on data distribution or query frequencies are made. When a number of methods have the same asymptotic worst-case behavior, features in the methods that affect average case behavior are discussed. Additional criteria examined are the pagination of an index, the ability to cluster related data together, and the ability to efficiently separate old from current data (so that larger archival storage media such as write-once optical disks can be used). The purpose of the paper is to identify the difficult problems in accessing temporal data and describe how the different methods aim to solve them. A general lower bound for answering basic temporal queries is also introduced.

↑ REFERENCES

Note: OCR errors may be found in this Reference List extracted from the full text article. ACM has opted to expose the complete List rather than only correct and linked references.

1   Rakesh Agrawal , Christos Faloutsos , Arun N. Swami, Efficient Similarity Search In Sequence Databases, Proceedings of the 4th International Conference on Foundations of Data Organization and Algorithms, p.69-84, October 13-15, 1993

2   I. Ahn , Richard Thomas Snodgrass, Partitioned storage for temporal databases, Information Systems, v.13 n.4, p.369-391, Oct. 1, 1988

3   L. Arge , J. S. Vitter, Optimal dynamic interval management in external memory, Proceedings of the 37th Annual Symposium on Foundations of Computer Science, p.560, October 14-16, 1996

4   Bruno Becker , Stephan Gschwind , Thomas Ohler , Bernhard Seeger , Peter Widmayer, An asymptotically optimal multiversion B-tree, The VLDB Journal — The International Journal on Very Large Data Bases, v.5 n.4, p.264-275, December 1996

5   Norbert Beckmann , Hans-Peter Kriegel , Ralf Schneider , Bernhard Seeger, The R*-tree: an efficient and robust access method for points and rectangles, Proceedings of the 1990 ACM SIGMOD international conference on Management of data, p.322-331, May 23-26, 1990, Atlantic City, New Jersey, United States

6   BENTLEY, J. 1977. Algorithms for Klee's rectangle problems. Computer Science Department, Carnegie Mellon University, Pittsburgh, PA.

7   Jacov Ben-Zvi, The time relational model, 1982

8   BLANKENAGEL, G. AND GUTING, R. 1990. XP- trees, external priority search trees. Tech. Rep., Fern Universitat Hagen, Informatik- Bericht No.92.

9   BLANKENAGEL, G. AND GUTING, R. 1994. External segment trees. Algorithmica 12, 6, 498-532.

10   Rasa Bliujute , Christian S. Jensen , Simonas Saltenis , Giedrius Slivinskas, R-Tree Based Indexing of Now-Relative Bitemporal Data, Proceedings of the 24rd International Conference on Very Large Data Bases, p.345-356, August 24-27, 1998

11   Michael H. Böhlen, Temporal database system implementations, ACM SIGMOD Record, v.24 n.4, p.53-60, Dec. 1995

12   BOZKAYA, T. AND ZSOYOGLU, M. 1995. Indexing transaction-time databases. Tech. Rep. CES-95-19. Case Western Reserve University, Cleveland, OH.

13   BURTON, F., HUNTBACH, M., AND KOLLIAS, J. 1985. Multiple generation text files using overlapping tree structures. Comput. J. 28, 414-416.

14   Bernard Chazelle, Filtering search: a new approach to query answering, SIAM Journal on Computing, v.15 n.3, p.703-724, August 1986

15   CHIANG, Y. AND TAMASSIA, R. 1992. Dynamic algorithms in computational geometry. Proc. IEEE 80, 9, 362-381.

16   DIETZFELBINGER, M., KARLIN, A., MEHLHORN, K., MEYER, F., ROHNHERT, H., AND TARJAN, R. 1988. Dynamic perfect hashing: Upper and lower bounds. In Proceedings of the 29th IEEE Conference on Foundations of Computer Science. 524-531.

17   James R. Driscoll , Neil Sarnak , Daniel D. Sleator , Robert E. Tarjan, Making data structures persistent, Journal of Computer and System Sciences, v.38 n.1, p.86-124, February 1989

18   Curtis Dyreson , Fabio Grandi , Wolfgang Käfer , Nick Kline , Nikos Lorentzos , Yannis Mitsopoulos , Angelo Montanari , Daniel Nonen , Elisa Peressi , Barbara Pernici , John F. Roddick , Nandlal L. Sarda , Maria Rita Scalas , Arie Segev , Richard Thomas Snodgrass , Mike D. Soo , Abdullah Tansel , Paolo Tiberio , Gio Wiederhold, A consensus glossary of temporal database concepts, ACM SIGMOD Record, v.23 n.1, p.52-64, March 1994

19   Malcolm C Easton, Key-sequence data sets on indelible storage, IBM Journal of Research and

Development, v.30 n.3, p.230-241, May 1986

20   EDELSBRUNNER, H. 1983. A new approach to rectangle intersections, Parts I&II. Int. J. Comput. Math. 13, 209-229.

21   Ramez Elmasri , Yeong-Joon Kim , Gene T. J. Wuu, Efficient Implementation Techniques For the Time Index, Proceedings of the Seventh International Conference on Data Engineering, p.102-111, April 08-12, 1991

22   Ramez Elmasri , Gene T. J. Wuu , Yeong-Joon Kim, The time index—an access structure for temporal data, Proceedings of the sixteenth international conference on Very large databases, p.1-12, September 1990, Brisbane, Australia

23   ELMASRI, R., Wuu, G., AND KOURAMAJIAN, V. 1993. The time index and the monotonic B+-tree. In Temporal Databases: Theory, Design, and Implementation, A. Tansel, J. Clifford, S. Gadia, S. Jajodia, A. Segev, and R. Snodgrass, Eds. Benjamin/Cummings, Redwood City, CA, 433-456.

24   Christos Faloutsos , M. Ranganathan , Yannis Manolopoulos, Fast subsequence matching in time-series databases, Proceedings of the 1994 ACM SIGMOD international conference on Management of data, p.419-429, May 24-27, 1994, Minneapolis, Minnesota, United States

25   Jim Gray , Andreas Reuter, Transaction Processing: Concepts and Techniques, Morgan Kaufmann Publishers Inc., San Francisco, CA, 1992

26   A. Segev , H. Gunadhi, Efficient Indexing Methods for Temporal Relations, IEEE Transactions on Knowledge and Data Engineering, v.5 n.3, p.496-509, June 1993

27   Oliver Günther, The Design of the Cell Tree: An Object-Oriented Index Structure for Geometric Databases, Proceedings of the Fifth International Conference on Data Engineering, p.598-605, February 06-10, 1989

28   Antonin Guttman, R-trees: a dynamic index structure for spatial searching, Proceedings of the 1984 ACM SIGMOD international conference on Management of data, June 18-21, 1984, Boston, Massachusetts

29   Joseph M. Hellerstein , Elias Koutsoupias , Christos H. Papadimitriou, On the analysis of indexing schemes, Proceedings of the sixteenth ACM SIGACT-SIGMOD-SIGART symposium on Principles of database systems, p.249-256, May 11-15, 1997, Tucson, Arizona, United States

30   Ch. Icking , R. Klein , Th. Ottmann, Priority search trees in secondary memory (extended abstract), Proceedings of the International Workshop WG '87 on Graph-theoretic concepts in computer science, p.84-93, July 1988, Kloster Banz/Staffelstein, Germany

31   H. V. Jagadish , Alberto O. Mendelzon , Tova Milo, Similarity-based queries, Proceedings of the fourteenth ACM SIGACT-SIGMOD-SIGART symposium on Principles of database systems, p.36-45, May 22-25, 1995, San Jose, California, United States

32   C. S. Jensen , L. Mark , N. Roussopoulos, Incremental Implementation Model for Relational Databases with Transaction Time, IEEE Transactions on Knowledge and Data Engineering, v.3 n.4, p.461-473, December 1991

33   Christian S. Jensen , Leo Mark , Nick Roussopoulos , Timos Sellis, Using differential techniques to efficiently support transaction time, The VLDB Journal — The International Journal on Very Large Data Bases, v.2 n.1, p.75-116, January 1993

34   Ibrahim Kamel , Christos Faloutsos, Hilbert R-tree: An Improved R-tree using Fractals, Proceedings of the 20th International Conference on Very Large Data Bases, p.500-509, September 12-15, 1994

35   Paris C. Kanellakis , Sridhar Ramaswamy , Darren E. Vengroff , Jeffrey S. Vitter, Indexing for data models with constraints and classes (extended abstract), Proceedings of the twelfth ACM SIGACT-SIGMOD-SIGART symposium on Principles of database systems, p.233-243, May 25-28, 1993, Washington, D.C., United States

36   KOLLIOS, G. AND TSOTRAS, V.J. 1998. Hashing methods for temporal data. TimeCenter TR- 24. Aalborg Univ~, Aalborg, Denmark. http:www.cs.auc.dk/general/DBS/tdb/ TimeCenter/publications.html

37   KOLOVSON, C. 1993. Indexing techniques for historical databases~ In Temporal Databases: Theory, Design, and Implementation, A. Tansel, J. Clifford, S. Gadia, S. Jajodia, A. Segev, and R. Snodgrass, Eds. Benjamin/ Cummings, Redwood City, CA, 418-432.

38   Curtis P. Kolovson , Michael Stonebraker, Indexing Techniques for Historical Databases, Proceedings of the Fifth International Conference on Data Engineering, p.127-137, February 06-10, 1989

39   Curtis P. Kolovson , Michael Stonebraker, Segment indexes: dynamic indexing techniques for multi-dimensional interval data, Proceedings of the 1991 ACM SIGMOD international conference on Management of data, p.138-147, May 29-31, 1991, Denver, Colorado, United States

40   Vram Kouramajian , Ramez Elmasri , Anurag Chaudhry, Declustering Techniques for Parallelizing Temporal Access Structures, Proceedings of the Tenth International Conference on Data Engineering, p.232-242, February 14-18, 1994

41   Vram Kouramajian , Ibrahim Kamel , Ramez Elmasri , Syed Waheed, The time index+: an incremental access structure for temporal databases, Proceedings of the third international conference on Information and knowledge management, p.296-303, November 29-December 02, 1994, Gaithersburg, Maryland, United States

42   Anil Kumar , Vassilis J. Tsotras , Christos Faloutsos, Access Methods for Bi-Temporal Databases, Proceedings of the International Workshop on Temporal Databases: Recent Advances in Temporal Databases, p.235-254, September 17-18, 1995

43   Anil Kumar , Vassilis J. Tsotras , Christos Faloutsos, Designing Access Methods for Bitemporal Databases, IEEE Transactions on Knowledge and Data Engineering, v.10 n.1, p.1-20, January 1998

44   Gad M. Landau , Jeanette P. Schmidt , Vassilis J. Tsotras, Historical queries along multiple lines of time evolution, The VLDB Journal — The International Journal on Very Large Data Bases, v.4 n.4, p.703-726, October 1995

45   Sitaram Lanka , Eric Mays, Fully persistent B+-trees, Proceedings of the 1991 ACM SIGMOD international conference on Management of data, p.426-435, May 29-31, 1991, Denver, Colorado, United States

46   LEUNG, T. Y. C. AND MUNTZ, R.R. 1992. Generalized data stream indexing and temporal query processing. In Proceedings of the Second International Workshop on Research Issues in Data Engineering: Transactions and Query Processing.

47   T. Y. Cliff Leung , Richard R. Muntz, Temporal Query Processing and Optimization in Multiprocessor Database Machines, Proceedings of the 18th International Conference on Very Large

Data Bases, p.383-394, August 23-27, 1992

48   LEUNG, T. Y. C. AND MUNTZ, R.R. 1993. Stream processing: Temporal query processing and optimization. In Temporal Databases: Theory, Design, and Implementation, A. Tansel, J. Clifford, S. Gadia, S. Jajodia, A. Segev, and R. Snodgrass, Eds. Benjamin/Cummings, Redwood City, CA, 329-355.

49   LITWIN, W. 1980. Linear hashing: A new tool for file and table addressing. In Proceedings of the 6th International Conference on Very Large Data Bases (Montreal, Ont. Canada, Oct. 1-3). ACM Press, New York, NY, 212- 223.

50   David Lomet, Using timestamping to optimize two phase commit, Proceedings of the second international conference on Parallel and distributed information systems, p.48-55, January 1993, San Diego, California, United States

51   David Lomet , Betty Salzberg, Access methods for multiversion data, Proceedings of the 1989 ACM SIGMOD international conference on Management of data, p.315-324, June 1989, Portland, Oregon, United States

52   David Lomet , Betty Salzberg, The performance of a multiversion access method, Proceedings of the 1990 ACM SIGMOD international conference on Management of data, p.353-363, May 23-26, 1990, Atlantic City, New Jersey, United States

53   David B. Lomet , Betty Salzberg, The hB-tree: a multiattribute indexing method with good guaranteed performance, ACM Transactions on Database Systems (TODS), v.15 n.4, p.625-658, Dec. 1990

54   LOMET, D. AND SALZBERG, B. 1993. Transactiontime databases. In Temporal Databases: Theory, Design, and Implementation, A. Tansel, J. Clifford, S. Gadia, S. Jajodia, A. Segev, and R. Snodgrass, Eds. Benjamin/ Cummings, Redwood City, CA.

55   David B. Lomet , Betty Salzberg, Exploiting A History Database for Backup, Proceedings of the 19th International Conference on Very Large Data Bases, p.380-390, August 24-27, 1993

56   N. A. Lorentzos , R. G. Johnson, Extending relational algebra to manipulate temporal data, Information Systems, v.13 n.3, p.289-296, May 1, 1988

57   V Lum , P Dadam , R Erbe , J Guenauer , P Pistor , G Walch , H Werner , J Woodfill, Designing DBMS support for the temporal dimension, Proceedings of the 1984 ACM SIGMOD international conference on Management of data, June 18-21, 1984, Boston, Massachusetts

58   Y. Manolopoulos , G. Kapetanakis, Overlapping B+trees for temporal data, Proceedings of the fifth Jerusalem conference on Information technology, p.491-498, September 1990, Jerusalem, Israel

59   MCCREIGHT, E. M. 1985. Priority search trees. SIAM J. Comput. 14, 2, 257-276.

60   Kurt Mehlhorn, Data structures and algorithms 3: multi-dimensional searching and computational geometry, Springer-Verlag New York, Inc., New York, NY, 1984

61   Iakovos Motakis , Carlo Zaniolo, Temporal aggregation in active database rules, Proceedings of the 1997 ACM SIGMOD international conference on Management of data, p.440-451, May 11-15, 1997, Tucson, Arizona, United States

62   Peter Muth , Achim Kraiss , Gerhard Weikum, LoT: Dynamic Declustering of TSB-Tree Nodes for Parallel Access to Temporal Data, Proceedings of the 5th International Conference on Extending

Database Technology: Advances in Database Technology, p.553-572, March 25-29, 1996

63   Mario A. Nascimento , Margaret H. Dunham , Ramez Elmasri, M-IVTT: An Index for Bitemporal Databases, Proceedings of the 7th International Conference on Database and Expert Systems Applications, p.779-790, September 09-13, 1996

64   NASCIMENTO, M., DUNHAM, M. H., AND KOURAMA- JIAN, V. 1996. A multiple tree mappingbased approach for range indexing. J. Brazilian Comput. Soc. 2, 3 (Apr.).

65   S. B. Navathe , R. Ahmed, A temporal relational model and a query language, Information Sciences: an International Journal, v.49 n.1-3, p.147-175, Oct.-Dec. 1989

66   O'NEIL, P. AND WEIKUM, G. 1993. A log-structured history data access method (LHAM). In Proceedings of the Workshop on High Performance Transaction System (Asilomar, CA).

67   Gultekin Ozsoyoglu , Richard Thomas Snodgrass, Temporal and Real-Time Databases: A Survey, IEEE Transactions on Knowledge and Data Engineering, v.7 n.4, p.513-532, August 1995

68   Sridhar Ramaswamy, Efficient Indexing for Constraint and Temporal Databases, Proceedings of the 6th International Conference on Database Theory, p.419-431, January 08-10, 1997

69   Sridhar Ramaswamy , Sairam Subramanian, Path caching (extended abstract): a technique for optimal external searching, Proceedings of the thirteenth ACM SIGACT-SIGMOD-SIGART symposium on Principles of database systems, p.25-35, May 24-27, 1994, Minneapolis, Minnesota, United States

70   Michael J. Carey , David J. DeWitt , Joel E. Richardson , Eugene J. Shekita, Object and File Management in the EXODUS Extensible Database System, Proceedings of the 12th International Conference on Very Large Data Bases, p.91-100, August 25-28, 1986

71   RIVEST, R. 1976. Partial-match retrieval algorithms. SIAM J. Comput. 5, 1 (Mar.), 19-50.

72   ROBINSON, J. 1984. The K-D-B tree: A search structure for large multidimensional dynamic indexes. In Proceedings of the ACM SIG- MOD Conference on Management of Data. ACM Press, New York, NY, 10-18.

73   Doron Rotem , Arie Segev, Physical Organization of Temporal Data, Proceedings of the Third International Conference on Data Engineering, p.547-553, February 03-05, 1987

74   Betty Salzberg, File structures: an analytic approach, Prentice-Hall, Inc., Upper Saddle River, NJ, 1988

75   Betty Salzberg, Timestamping after commit, Proceedings of the third international conference on on Parallel and distributed information systems, p.160-167, October 1994, Autin, Texas, United States

76   SALZBERG, B. AND LOMET, D. 1995. Branched and Temporal Index Structures. Tech. Rep. NU-CCS-95-17. Northeastern Univ., Boston, MA.

77   A. Segev , H. Gunadhi, Event-join optimization in temporal relational databases, Proceedings of the 15th international conference on Very large data bases, p.205-215, July 1989, Amsterdam, The Netherlands

78   Timos K. Sellis , Nick Roussopoulos , Christos Faloutsos, The R+-Tree: A Dynamic Index for Multi-Dimensional Objects, Proceedings of the 13th International Conference on Very Large Data Bases, p.507-518, September 01-04, 1987

79   Praveen Seshadri , Miron Livny , Raghu Ramakrishnan, The Design and Implementation of a Sequence Database System, Proceedings of the 22th International Conference on Very Large Data Bases, p.99-110, September 03-06, 1996

80   Arie Shoshani , Kyoji Kawagoe, Temporal Data Management, Proceedings of the Twelfth International Conference on Very Large Data Bases, p.79-88, August 25-28, 1986

81   Richard Snodgrass , Ilsoo Ahn, A taxonomy of time databases, Proceedings of the 1985 ACM SIGMOD international conference on Management of data, p.236-246, May 1985, Austin, Texas, United States

82   Richard Snodgrass , Ilsoo Ahn, Temporal databases, Computer, v.19 n.9, p.35-41, Sept. 1986

83   Michael Stonebraker, The Design of the POSTGRES Storage System, Proceedings of the 13th International Conference on Very Large Data Bases, p.289-300, September 01-04, 1987

84   Vassilis J. Tsotras , B. Gopinath, Efficient algorithms for managing the history of evolving databases, Proceedings of the third international conference on database theory on Database theory, p.141-174, November 1990, Paris, France

85   Vassilis J. Tsotras , B. Gopinath , George W. Hart, Efficient Management of Time-Evolving Databases, IEEE Transactions on Knowledge and Data Engineering, v.7 n.4, p.591-608, August 1995

86   Vassilis J. Tsotras , Christian S. Jensen , Richard Thomas Snodgrass, An extensible notation for spatiotemporal index queries, ACM SIGMOD Record, v.27 n.1, p.47-53, March 1998

87   Vassilis J. Tsotras , Nickolas Kangelaris, The snapshot index: an I/O-optimal access method for timeslice queries, Information Systems, v.20 n.3, p.237-260, May 1995

88   TSOTRAS, V. J. AND KUMAR, A. 1996. Temporal database bibliography update. SIGMOD Rec. 25, 1 (Mar.), 41-51.

89   Jochen Van den Bercken , Bernhard Seeger , Peter Widmayer, A Generic Approach to Bulk Loading Multidimensional Index Structures, Proceedings of the 23rd International Conference on Very Large Data Bases, p.406-415, August 25-29, 1997

90   Peter J. Varman , Rakesh M. Verma, An Efficient Multiversion Access Structure, IEEE Transactions on Knowledge and Data Engineering, v.9 n.3, p.391-409, May 1997

91   VERMA, Z. AND VARMAN, P. 1994. Efficient archivable time index: A dynamic indexing scheme for temporal data. In Proceedings of the International Conference on Computer Systems and Education. 59-72.

92   Jeffrey S. Vitter, An efficient I/O interface for optical disks, ACM Transactions on Database Systems (TODS), v.10 n.2, p.129-162, June 1985

↑ **CITINGS** *29*

Hubert Ka Yau Leung , Ioana Burcea , Hans-Amo Jacobsen, Modeling location-based services with subject spaces, Proceedings of the 2003 conference of the Centre for Advanced Studies conference on Collaborative research, p.171-181, October 06-09, 2003, Toronto, Ontario, Canada

Mario A. Nascimento , Margaret H. Dunham, Indexing Valid Time Databases via B+-Trees, IEEE

Transactions on Knowledge and Data Engineering, v.11 n.6, p.929-947, November 1999

Nikos Mamoulis , Huiping Cao , George Kollios , Marios Hadjieleftheriou , Yufei Tao , David W. Cheung, Mining, indexing, and querying historical spatiotemporal data, Proceedings of the 2004 ACM SIGKDD international conference on Knowledge discovery and data mining, August 22-25, 2004, Seattle, WA, USA

Sanjiv Behl , Rakesh M. Verma, Efficient declustering techniques for temporal access structures, Proceedings of the 12th Australasian conference on Database technologies, p.91-98, January 29- February 01, 2001, Queensland, Australia

Theodoros Tzouramanis , Michael Vassilakopoulos , Yannis Manolopoulos, Overlapping linear quadtrees: a spatio-temporal access method, Proceedings of the sixth ACM international symposium on Advances in geographic information systems, p.1-7, November 02-07, 1998, Washington, D.C., United States

Martin Danielsson , Rainer Müller, A time-evolving data structure scalable between discrete and continuous attribute modifications, Computer science in perspective, Springer-Verlag New York, Inc., New York, NY, 2003

Donhui Zhang , Alexander Markowetz , Vassilis Tsotras , Dimitrios Gunopulos , Bernhard Seeger, Efficient computation of temporal aggregates with range predicates, Proceedings of the twentieth ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems, p.237-245, May 2001, Santa Barbara, California, United States

Bela Stantic , Sankalp Khanna , John Thornton, An efficient method for indexing now-relative bitemporal data, Proceedings of the fifteenth conference on Australasian database, p.113-122, January 01, 2004, Dunedin, New Zealand

Theodoros Tzouramanis , Michael Vassilakopoulos , Yannis Manolopoulos, Benchmarking access methods for time-evolving regional data, Data & Knowledge Engineering, v.49 n.3, p.243-286, June 2004

Sung Tak Kang , Yon Dohn Chung , Myoung Ho Kim, An efficient method for temporal aggregation with range-condition attributes, Information Sciences—Informatics and Computer Science: An International Journal, v.168 n.1-4, p.243-265, 3 December 2004

Artur Czumaj , Christian Sohler, Soft kinetic data structures, Proceedings of the twelfth annual ACM-SIAM symposium on Discrete algorithms, p.865-872, January 07-09, 2001, Washington, D.C., United States

Kjetil Nørvåg, Supporting temporal text-containment queries in temporal document databases, Data & Knowledge Engineering, v.49 n.1, p.105-125, 1 April 2004

Deepayan Chakrabarti , Christos Faloutsos, F4: large-scale automated forecasting using fractals, Proceedings of the eleventh international conference on Information and knowledge management, November 04-09, 2002, McLean, Virginia, USA

Yufei Tao , Dimitris Papadias , Jun Zhang, Cost models for overlapping and multiversion structures, ACM Transactions on Database Systems (TODS), v.27 n.3, p.299-342, September 2002

Anil Kumar , Vassilis J. Tsotras , Christos Faloutsos, Designing Access Methods for Bitemporal Databases, IEEE Transactions on Knowledge and Data Engineering, v.10 n.1, p.1-20, January 1998

Jost Enderle , Nicole Schneider , Thomas Seidl, Efficiently processing queries on interval-and-value

tuples in relational databases, Proceedings of the 31st international conference on Very large data bases, August 30-September 02, 2005, Trondheim, Norway

George Kollios , Dimitrios Gunopulos , Vassilis J. Tsotras, On indexing mobile objects, Proceedings of the eighteenth ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems, p.261-272, May 31-June 03, 1999, Philadelphia, Pennsylvania, United States

Robert M. Bruckner , A. Min Tjoa, Capturing Delays and Valid Times in Data Warehouses—Towards Timely Consistent Analyses, Journal of Intelligent Information Systems, v.19 n.2, p.169-190, September 2002

Vinay Kanitkar , Alex Delis, Time Constrained Push Strategies in Client-Server Databases, Distributed and Parallel Databases, v.9 n.1, p.5-38, January 1, 2001

Joseph M. Hellerstein , Elias Koutsoupias , Daniel P. Miranker , Christos H. Papadimitriou , Vasilis Samoladas, On a model of indexability and its bounds for range queries, Journal of the ACM (JACM), v.49 n.1, p.35-55, January 2002

George Kollios , Vassilis J. Tsotras, Hashing Methods for Temporal Data, IEEE Transactions on Knowledge and Data Engineering, v.14 n.4, p.902-919, July 2002

George Kollios , Vassilis J. Tsotras , Dimitrios Gunopulos , Alex Delis , Marios Hadjieleftheriou, Indexing Animated Objects Using Spatiotemporal Access Methods, IEEE Transactions on Knowledge and Data Engineering, v.13 n.5, p.758-777, September 2001

Yufei Tao , Dimitris Papadias, Historical spatio-temporal aggregation, ACM Transactions on Information Systems (TOIS), v.23 n.1, p.61-102, January 2005

Pankaj K. Agarwal , Lars Arge , Jeff Erickson, Indexing moving points, Journal of Computer and System Sciences, v.66 n.1, p.207-243, 01 February 2003

Zhiyuan Chen , Chen Li , Jian Pei , Yufei Tao , Haixun Wang , Wei Wang , Jiong Yang , Jun Yang , Donghui Zhang, Recent progress on selected topics in database research: a report by nine young Chinese researchers working in the United States, Journal of Computer Science and Technology, v.18 n.5, p.538-552, September 2003

Lars Arge, External memory data structures, Handbook of massive data sets, Kluwer Academic Publishers, Norwell, MA, 2002

Jeffrey Scott Vitter, External memory algorithms and data structures: dealing with

massive data , ACM Computing Surveys (CSUR), v.33 n.2, p.209-271, June 2001

↑ **INDEX TERMS**

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 H. Information Systems
 ↳ **H.3** INFORMATION STORAGE AND RETRIEVAL
  ↳ **H.3.1** Content Analysis and Indexing
   ↳ **Subjects:** Indexing methods

Additional Classification:
H. Information Systems
↳ **H.2** DATABASE MANAGEMENT
↳ **H.2.2** Physical Design
↳ **Subjects:** Access methods

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